# Work Order ID 90748, September-24-12 2:54:22 PM

\*90748\*

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| September 24 1                              | 2 2.34.221 1/1      |                                   |   |                                     |   |        |              |               |               |      |                |                            |
|---|---------------------|-----------------------------------|---|-------------------------------------|---|--------|--------------|---------------|---------------|------|----------------|----------------------------|
| Item ID:<br>Revision ID:                    | D350-591-311        |                                   |   | Accept                              | *N900                                   | 040    | 100          | <b>)*</b> s   | etup S        |      | *N:            | S1*                        |
| Item Name:                                  | Heli-Access-Step, I | Long LH                           |   |                                     |   |        |              |               | S             | top  | *N!            | S2*                        |
| Start Date:<br>Required Date:<br>Reference: |                     | art Qty: 10.00<br>eq'd Qty: 10.00 | *10*<br>*10*  |                                     | Cust Item l<br>Customer:                | ID:    |              |               |               |      |                |                            |
| Approvals:                                  | Process Plan: _     | MLJ                               | Date: 12-09-29  | Tooling:                            | D                                       | ate:   |              | R             |               | tart | *NI            | R1*                        |
|   | QC:                 |                                   | Date:   | <b>SPC (Y/N):</b>                   | D                                       | ate:   |              |               | S             | top  | *NI            | R2*                        |
| Sequence ID/<br>Work Center I               | -                   | eration<br>scription              |   | Set Up/<br>Run Hours                | Tool ID                                 | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty |      | eject<br>umber | Insp.<br>Stamp             |
| Draw Nbr                                    | Revision            | 1 Nbr                             |   |                                     |   |        |              |               |               |      |                |                            |
| D3272                                       | Rev B               |                                   |   |                                     |   |        |              |               |               |      |                |                            |
| *100 *100* DC Document Control              | DO                  | CUMENT CONTRO  Memo  Photocopy    | L<br>oluefile and type labels as p  | 0.00<br>0.00<br>er PPP D350-591-311 | 6 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |        |              | +             | -do1          | M    | 4              | 12-10-1                    |
| 110   |                     |                                   |   | 0.00                                |   |        |              |               |               |      |                | i- N                       |
| *110*<br>Large Fab<br>Large Fab             | Larş                | ge Fab  Memo  1-Bevel end         |   | 0.00                                |   |        |              | 10            | e e           |      |                | 12.10.10                   |
|   |                     | D3272                             | oort using Jig DT8719, wel<br>um Rod <u>W (12358</u><br>W (2243)<br>Plate flush | d Fwd End Plate as per (            | QSI 004 & Dwg                           |        |              | -             |               |      | I,             | 12.10.10<br>Ae<br>12.10.10 |

|   |             |          |                 |          |             |                                       |     |                    |                               | •                             | DQA                       | Date.                                   | San No.                             |
|---|-------------|----------|-----------------|----------|-------------|---------------------------------------|-----|--------------------|-------------------------------|-------------------------------|---------------------------|---|-------------------------------------|
| NCR:  | Yes /       | No       |                 |          |             | WORK ORDER NON-O                      | COI | <b>VFORM</b>       | MANCE / UP                    | DATE                          |                           |   |                                     |
| _   | ÷           |          |                 | . 2      | <b>*</b>    |                                       |     |                    |                               |                               | QA Closed:                | - Date:                                 |                                     |
| Work Ord  | er:         |          |                 |          | ١.,         | DISPOSITION                           |     |                    |                               | AGAINST DE                    | PARTMENT                  | ROCESS*                                 |                                     |
| Part I  | <br>No      |          |                 |          |             | Rework Scrap Use-as-is                |     | ı                  | Skid-tube Machining noforming | Crosstube Small Fab Finishing |                           | Wäter Jet<br>Eng. Coor.<br>Packaging    | Engineering<br>Quality<br>Other     |
| NCR   | No          |          |                 |          | <del></del> | Work Order Update                     |     |                    | Large Fab                     | Composite                     | ]                         | Supplier                                |                                     |
| Root  |             |          |                 |          | Descri      | ption of work order update            | П   | Initial            | Ac                            | tion                          | Sign &                    |   |                                     |
| Cause   | [           | Date     | Step            | Qty      | 1           | or Non-conformance                    | Ch  | ief Eng            | Desc                          | ription                       | Date -                    | Verification                            | QC Inspector                        |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved |             | <i>\</i> |                 | -        |             |                                       |     |                    |                               |                               |                           |   |                                     |
|   |             |          |                 |          |             |                                       | AUL | T CATE             | GORY                          |                               | TRID I PER                |   |                                     |
| Landi   | Ce          | nding    | t Çoncer        | ntric to | o/s         | General Bend BOM/Route Broken/Damaged |     | Grain<br>Hardwa    | ire<br>ion Incomplete         | ** '                          | Ovalized<br>Over/Understo | 1 | Pressure/Forced<br>Temperature/Cure |
| *   | <del></del> | ished/C  | Crimped.        |          |             | Burrs Contamination                   |     | 4                  | ions Incomplete/              | /Unclear                      | Part Lost/Miss            | ing                                     | Wrong Stock Pulled                  |
| 8   | ⊢⊣          | at Treat | t<br>1 Strip in | Tube     | -           | Countersink<br>Cut Too Short          | H   | Mislabe<br>Misread |                               |                               | Positioned Wi             | Sac Sail (                              | Other                               |

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish -

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| Item ID:<br>Revision ID:<br>Item Name:                   | D350-591-3<br>Heli-Access-S | •   |                  |              | Accept                       | *N900                    | <b>040</b> | 100          | <b>)</b> * s  | Setup       | Start<br>Stop | *N:                                | S1*<br>S2*     | _   |
|--|-----------------------------|---|------------------|--------------|------------------------------|--------------------------|------------|--------------|---------------|-------------|---------------|------------------------------------|----------------|---|
| Start Date:<br>Required Date:<br>Reference:              | 9/24/12<br>10/26/12         | Start Qty: 10.00<br>Req'd Qty: 10.00            |                  | *10*<br>*10* |                              | Cust Item I<br>Customer: | D:         |              |               |             |               | ı V.                               | 17             |   |
| Approvals:   |                             | nn:   | Date:_<br>Date:_ |              | Tooling: SPC (Y/N):          |                          | ate:       |              | I             |             | Start<br>Stop | *N <br>*N                          | R1*<br>R2*     |   |
| Sequence ID/ Work Center II 120 *170* QC Quality Control | ) ,-,*                      | Operation Description QC9- Inspect visual per O | QSI004- Fus      | ion Welds    | Set Up/<br>Run Hours<br>0.00 | Tool ID                  | Tool #     | Plan<br>Code | Accept<br>Qty | Reje<br>Qty | ľ             | Reject<br>Number<br><i>IZ-10-1</i> | Insp.<br>Stamp | SATIS   |
| 130 *130* QC Quality Control                             | •                           | QC5- Inspect part comple                        | eteness to st    | ep on W/O    | 0.00 SmB<br>0.00 12 10-11    |                          |            |              | ÍO            |             |               |                                    |                | 1997年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年,1998年 |
| 140 *140* HandFinish Hand Finishing                      |                             | Chemical Conversion Co                          | at per QSI00     | 05 4.1       | 0.00                         |                          |            |              | _10           |             | B             | 12.10                              | 211            |   |

|   |            |   |                            |     |        |   |     |  |  |           |         | DQA:   | Dat                  | te: | - • •  |
|---|------------|---|----------------------------|-----|--------|---|-----|--|--|-----------|---------|--|----------------------|-----|--|
| NCR:  | Yes        | / No  |                            |     |        | WORK ORDER NON-C  | 100 | NFORM                                    | /ANCE / UPI  | DATE      |         |  |                      |     | • >  |
|   |            |   |                            |     |        |   |     |  |  |           | (       | QA Closed:   | Dat                  | te: |  |
| Work Ord  | er.        |   |                            |     |        | DISPOSITION   |     |  |  | AGAINST D | ΕP      | ARTMENT  | PROCESS              |     | •  |
| Part I  | -<br>. No. |   |                            |     |        | Scrap Ma Use-as-is Thermof Work Order Update Lai                                    |     |  | Skid-tube Crosstube Small Fab Finishing Composite  |           |         | Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier                            |                      |     | Engineering Quality Other  |
| Root  |            |   |                            |     | Descri | ption of work order update  | П   | Initial                                  | Act  | tion      |         | Sign &   |                      |     |  |
| Cause   |            | Date  | Step                       | Qty | (      | or Non-conformance  | Ch  | ief Eng                                  | Desci  | ription   | $\perp$ | Date   | Verification         | n   | QC Inspector   |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved |            |   |                            |     |        |   |     |  |  |           |         |  |                      |     |  |
|   |            |   |                            |     |        |   | AUL | T CATE                                   | GORY   |           |         |  |                      |     |  |
| Landi   |            | Bending<br>Centre No<br>Cracks<br>Crushed/O<br>Cuffs<br>Heat Trea<br>Inspection | Crimped<br>t<br>n Strip in |     | O/S    | General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short |     | Instruct<br>Mainte<br>Mislabe<br>Misreac | on Incomplete<br>ions Incomplete/i<br>nance<br>led | Unclear   |         | Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/ | ct<br>ssing<br>Vrong |     | Pressure/Forced<br>Temperature/Cure<br>Weld<br>Wrong Stock Pulled<br>Other |
|   | 1 1        | Ripples in  | Bend                       |     |        | Drill Holes   | 1   | Offset                                   |  |           |         |  |                      |     |  |

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

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| <b>Work Orde</b><br>September-24-12         |                     |   | ,  | Page 3               |                          |        |              |               |              |       |                  |                |
|---|---------------------|---|--|----------------------|--------------------------|--------|--------------|---------------|--------------|-------|------------------|----------------|
| Item ID:<br>Revision ID:                    | D350-591-           | 311   |  | Accept               | *N900                    | 040    | 100          | )*            | Setup        | Start | *N:              | S1*            |
| Item Name:                                  | Heli-Access-        | Step, Long LH                                   |  |                      |                          |        |              |               |              | Stop  | *N:              | S2*            |
| Start Date:<br>Required Date:<br>Reference: | 9/24/12<br>10/26/12 | <b>Start Qty:</b> 10.00 <b>Req'd Qty:</b> 10.00 | *10*<br>*10*   |                      | Cust Item I<br>Customer: | D:     |              |               |              |       |                  |                |
| Approvals:                                  | Process P           | lan:  | Date:  | Tooling:             | Da                       | ate:   | _            | ]             | Run          | Start | *N               | R1*            |
|   | QC:                 |   | Date:  | SPC (Y/N):           |                          | ate:   |              |               |              | Stop  | *N               | R2*            |
| Sequence ID/<br>Work Center II              | )                   | Operation Description                           |  | Set Up/<br>Run Hours | Tool ID                  | Tool # | Plan<br>Code | Accept<br>Qty | Rej<br>Qty   | •     | Reject<br>Number | Insp.<br>Stamp |
| 150   |                     | QC3- Inspect Part Finish                        |  | 0.00                 |                          |        |              |               |              |       | 4                | S/             |
| *150*<br>QC<br>Quality Control              |                     | Мето  |  | 0.00                 |                          |        |              | 102'          |              |       | ·                | 1)12/10/       |
| 180   |                     |   |  | 0.00                 |                          |        |              |               |              |       |                  |                |
| *1ጸበ*                                       |                     | Large Fab                                       |  | 0.00                 |                          |        |              | 10            | ,            | d     |                  | A              |
| Large Fab                                   |                     | Memo  |  | 0.00                 |                          |        |              | , 0           | <del>-</del> | ρ     |                  | 10 10 10       |
| Large Fab                                   |                     | 1-Assemble L                                    | eg Assembly as per Dwg                               | D3272.               |                          |        |              |               |              |       | •                | 12.10.12       |
|   |                     |   | ivet out until welding is c                          | omplete.             |                          |        |              |               |              |       | ,                | M              |
|   |                     | 3-Bevel Aft er<br>4-Inspect for 1               | nd for welding<br>Foreign object as per QSI          | 024                  |                          |        |              |               |              |       |                  | 12.10.10       |
|   |                     |   | nd Plate as per QSI 004 &<br>n Rod <u>M / 2935</u> 8 |                      |                          |        |              |               |              |       |                  | 12.10.15       |

6-Grind End Plate flush

7-Install last rivet as per Dwg.

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date:

| NCIV.        |      | , 110      |            |           |          | TOTAL CADENTION                |        |          | VIAITELY OF BATE                           |        | QA Closed:   | Date                                  | :                                     |
|--------------|------|------------|------------|-----------|----------|--------------------------------|--------|----------|--|--------|--------------|---------------------------------------|---------------------------------------|
| Work Orde    | er:  |            |            |           |          | DISPOSITION                    |        |          | AGAINST                                    | DE     | PARTMENT     | PROCESS                               | •                                     |
| Part N       | •    |            |            |           |          | Rework<br>Scrap                |        |          | Skid-tube Crosstube Machining Small Fab    | $\Box$ | i e          | Water Jet                             | Engineering Quality                   |
| NCR N        | ۱o.  |            |            |           |          | Use-as-is<br>Work Order Update | ]      | Thern    | noforming Finishing<br>Large Fab Composite | _      | Rec/Stor     | e/Packaging<br>Supplier               | Other                                 |
| Root         |      |            |            |           | Descr    | ription of work order update   |        | Initial  | Action                                     |        | Sign &       | · · · · · · · · · · · · · · · · · · · |                                       |
| Cause        |      | Date       | Step       | Qty       |          | or Non-conformance             | Ch     | nief Eng | Description                                |        | Date         | Verification                          | QC Inspector                          |
| oc/Data      |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| quip/Tooling |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| perator      |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| /laterial    |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| etup         |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| ther         |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| rocess       |      |            |            |           |          |                                |        |          |  |        |              |                                       | ;                                     |
| upplier      |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| raining      |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
| Inapproved   |      |            |            |           |          |                                |        |          |  |        |              |                                       |                                       |
|              |      |            |            |           |          |                                | AUL    | T CATE   | GORY                                       |        |              |                                       |                                       |
| Landi        | ng ( | Gear       |            |           | _        | General                        |        | -        |  |        | •            | <b>-</b> -                            | <b></b> 1                             |
|              |      | Bending    |            |           | _        | Bend                           |        | Grain    |  | L      | Ovalized     |                                       | Pressure/Forced                       |
|              |      | Centre No  | ot Concer  | ntric to  | o/s      | BOM/Route                      |        | Hardwa   | re   | L      | Over/Under   | tolerance                             | Temperature/Cure                      |
|              |      | Cracks     |            |           | <u> </u> | Broken/Damaged                 | L      | Inspect  | ion Incomplete                             |        | Part Incorre | ct _                                  | Weld                                  |
|              |      | Crushed/0  | Crimped.   |           |          | Burrs                          |        | Instruct | ions Incomplete/Unclear                    |        | Part Lost/Mi | ssing                                 | Wrong Stock Pulled                    |
|              |      | Cuffs      |            |           |          | Contamination                  |        | Mainte   | enance                                     |        | Part Moved   |                                       |                                       |
|              |      | Heat Trea  | ıt         |           |          | Countersink                    |        | Mislabe  | eled                                       |        | Positioned V | Vrong _                               |                                       |
|              |      | Inspection | n Strip in | Tube      |          | Cut Too Short                  |        | Misread  | t  |        | Power Loss/  | Surge                                 | Other                                 |
|              | Ī    | Ripples in | Bend       |           |          | Drill Holes                    |        | Offset   |  |        |              |                                       |                                       |
|              |      | Torque W   | aves in E  | extrusion | n [      | Drawing                        |        | Out of   | Calibration                                |        |              |                                       |                                       |
|              |      | Turning S  | equence    |           |          | Finish                         |        | Out of : | Sequence                                   |        |              |                                       |                                       |
|              |      | Wave/Tw    | ist in Tub | oe .      |          | Folio                          | $\Box$ | Outside  | Dimensions                                 |        |              |                                       | · · · · · · · · · · · · · · · · · · · |

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| Work Orde  |            |   |                       | *90748*                                    |                            |                 |               |                  |                  |                |  |  |
|--|------------|---|-----------------------|--|----------------------------|-----------------|---------------|------------------|------------------|----------------|--|--|
| Item ID:<br>Revision ID:   | D350-591-3 |   |                       | *N900040100* Setu                          |                            |                 |               |                  |                  |                |  |  |
| Item Name: Start Date: Required Date: Reference:                         | 9/24/12    | Step, Long LH Start Qty: 10.00 Req'd Qty: 10.00 | *10*<br>*10*          |  | Cust Item ID:<br>Customer: |                 |               | Stop             | ′ *N:            | S2*            |  |  |
| Approvals:   |            | an:   | Date:                 | Tooling: SPC (Y/N):                        | Date:                      |                 | F             | tun Star<br>Stop |                  | R1*<br>R2*     |  |  |
| Sequence ID/<br>Work Center II<br>190<br>*1 QA*<br>QC<br>Quality Control | D          | Operation Description QC10- Inspect visual per  | QSI004- ground welds  | Set Up/<br>Run Hours<br>0.00<br>24<br>0.00 | 19.10.12                   | l# Plan<br>Code | Accept<br>Qty | Reject<br>Qty    | Reject<br>Number | Insp.<br>Stamp |  |  |
| 200 *200* QC Quality Control   |            | QC5- Inspect part comple  Memo                  | teness to step on W/O | 0.00 Sml                                   | \$<br>5.7S                 |                 | 10            |                  |                  | . ,            |  |  |
| 210 *210* HandFinish   |            | Chemical Conversion Coa                         | at per QSI005 4.1     | 0.00                                       |                            |                 | 10            | 16               | 12:10            | 15             |  |  |

Memo

Hand Finishing

|                | DISPOSITION        | AGAINST DEPARTMENT/PRO | CESS  |      |
|----------------|--------------------|------------------------|-------|------|
| Nett. 163 / No | WORK ORDER HOR COL | QA Closed:             | Date: | , ,  |
| NCR: Yes / No  | WORK ORDER NON-COM | NEORMANCE / LIPDATE    |       |      |
|                |                    | DQA:                   | Date: | , ,  |
|                |                    |                        |       | , pr |

|   |  |      |           |       |   |             |  |   | QA Closed:   | Date  | 2:   |
|---|--|------|-----------|-------|---|-------------|--|---|--|---|--|
| Work Orde   | r·   |      |           |       | DISPOSITION   |             |  | AGAINST DE                              | PARTMENT,  | PROCESS                                       | ٠  |
| Part N<br>NCR N   | 0  |      |           |       | Rework<br>Scrap<br>Use-as-is<br>Work Order Update                                       | Ther        | Skid-tube  Machining  moforming  Large Fab                     | Crosstube Small Fab Finishing Composite | i  | Water Jet d. Eng. Coor. re/Packaging Supplier | Engineering Quality Other                                      |
| Root  |  |      |           | Descr | iption of work order update   | Initial     | Ad   | ction                                   | Sign &   |   |  |
| Cause   | Date   | Step | Qty       |       | or Non-conformance  | Chief Eng   | Desc   | cription                                | Date   | Verification                                  | QC Inspector   |
| occ/Data quip/Tooling Operator Material Setup Other Process Supplier Fraining |  |      |           |       |   | e Ar        |  |   |  |   |  |
| Jnapproved  |  |      |           |       |   | FAULT CATI  | FGORY  |   |  |   | 1  |
| Landin  | g Gear   |      |           |       | General   | TAGET CAT   |  |   |  |   |  |
|   | Bending Centre Not Concentric to O/S Cracks Br Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube |      |           |       | Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes | Instruc     | tion Incomplete<br>ctions Incomplete<br>cenance<br>peled<br>ad | /Unclear                                | Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V | ct<br>issing<br>Vrong                         | Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other |
| ļ-  | Torque W   |      | extrusion | ,     | Drawing   | <del></del> | Calibration  |   |  |   |  |
|   | Turning S<br>Wave/Tw   | -    |           |       | Finish<br>Folio   | <del></del> | Sequence<br>le Dimensions                                      |   |  |   |  |

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| Work Ord<br>September-24-1                  |                       |  |                         | Page 5               |                            |                 |               |             |              |
|---|-----------------------|--|-------------------------|----------------------|----------------------------|-----------------|---------------|-------------|--------------|
| Item ID:<br>Revision ID:                    | D350-591-3            | 11   |                         | Accept               | *N9000401                  | იი*             | Setup         |             | *NS1*        |
| Item Name:                                  | Heli-Access-S         | tep, Long LH                                   |                         |                      |                            |                 |               | Stop        | *NS2*        |
| Start Date:<br>Required Date:<br>Reference: | 9/24/12<br>: 10/26/12 | Start Qty: 10.00<br>Req'd Qty: 10.00           | *10*<br>*10*            |                      | Cust Item ID:<br>Customer: |                 |               |             |              |
| Approvals:                                  | Process Pla           | ın:  | Date:                   | Tooling:             | Date:                      |                 | Run           | Start       | *NR1*        |
|   |                       |  | Date:                   | SPC (Y/N):           | Date:                      |                 |               | Stop        | *NR2*        |
| Sequence ID/<br>Work Center II              | D                     | Operation Description White Gloss(Ref:4.3.5.1) | ner OS1005 4 3-Alum     | Set Up/<br>Run Hours | Tool ID Tool # Pl          | an Accepode Qty | ot Rej<br>Qty |             | Reject Insp. |
| *220* Powdercoat Powder Coating             | .2878                 | Memo<br>START TIM                              | 3 - 30<br>PERATURE: 32. |                      |                            | lux<br>LH       | y             |             | 12/10/16     |
| 230   |                       | Wing Walk as per dwg Q                         | SI005 4.4 Batch M( 12)  | 25960                |                            |                 |               |             |              |
| *230* HandFinish Hand Finishing             |                       | Memo   |                         | 0.00                 |                            | _/X             | J.H_          |             | Il ulialié   |
| 240   |                       | QC3- Inspect Part Finish                       |                         | 0.00                 |                            |                 | <i>l</i> .    | /           |              |
| *24U*                                       |                       | Memo   |                         | 0.00                 |                            | 10              | #1            | <u> P</u> - | 12/0-6. AE   |

Quality Control

| NCR: | Yes / No | WORK ORDER NON-CONFORMANCE / UPDATE | DQA.       |
|------|----------|-------------------------------------|------------|
|      |          |                                     | QA Closed: |
| •    |          |                                     |            |

|               | ·            |             |          |       |                                |           |                      |                     | QA Closed:   | Date                    | :                   |
|---------------|--------------|-------------|----------|-------|--------------------------------|-----------|----------------------|---------------------|--------------|-------------------------|---------------------|
| Work Orde     | r·           |             |          |       | DISPOSITION                    |           |                      | AGAINST DE          | PARTMENT     | PROCESS                 | •                   |
| Part N        |              |             |          |       | Rework<br>Scrap                | ]         | Skid-tube Machining  | Crosstube Small Fab |              | Water Jet               | Engineering Quality |
| NCR N         | 0            |             |          |       | Use-as-is<br>Work Order Update | ]   The   | rmoforming Large Fab | Finishing Composite | Rec/Stor     | e/Packaging<br>Supplier | Other               |
| Root          |              |             |          | Descr | iption of work order update    | Initial   | Act                  | tion                | Sign &       | <u> <del>-</del>.</u> . |                     |
| Cause         | Date         | Step        | Qty      |       | or Non-conformance             | Chief Er  | g Desc               | ription             | Date         | Verification            | QC Inspector        |
| Doc/Data      |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Equip/Tooling |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Operator      |              |             |          |       |                                |           |                      |                     |              | İ                       |                     |
| Material      |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Setup         |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Other         |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Process       |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Supplier      |              |             |          |       |                                |           |                      |                     |              |                         |                     |
| Training      |              |             |          | •     |                                |           |                      |                     |              |                         |                     |
| Unapproved    |              |             |          |       |                                | <u>.l</u> |                      |                     |              |                         |                     |
|               |              |             |          | ·     |                                | AULT CA   | FEGORY               |                     |              |                         |                     |
| Landin        | g Gear       |             |          |       | General                        |           | *                    |                     | -            | _                       |                     |
|               | Bending      |             |          |       | Bend                           | Graii     | 1                    |                     | Ovalized     |                         | Pressure/Forced     |
|               | Centre N     | ot Concei   | ntric to | o/s   | BOM/Route                      | Hard      | ware                 |                     | Over/Under   | tolerance               | Temperature/Cure    |
|               | Cracks       |             |          |       | Broken/Damaged                 | Inspe     | ction Incomplete     |                     | Part Incorre | ct                      | Weld                |
| [             | Crushed/     | Crimped.    | •        |       | Burrs                          | Instru    | ictions Incomplete/  | Unclear             | Part Lost/Mi | ssing                   | Wrong Stock Pulled  |
| 2             | Cuffs        |             |          |       | Contamination                  | Mair      | tenance              |                     | Part Moved   |                         |                     |
| . [           | Heat Trea    | at          |          |       | Countersink                    | Misla     | beled                |                     | Positioned V | Vrong _                 | <u></u>             |
|               | Inspectio    | n Strip in  | Tube     |       | Cut Too Short                  | Misre     | ad                   |                     | Power Loss/  | Surge                   | Other               |
|               | Ripples ir   | n Bend      |          |       | Drill Holes                    | Offse     | t                    |                     |              |                         |                     |
|               | Torque V     | Vaves in E  | Extrusio | n [   | Drawing                        | Out       | f Calibration        |                     |              |                         |                     |
| [             | Turning S    | Sequence    |          |       | Finish                         | Out       | of Sequence          |                     |              |                         |                     |
| Ī             | □<br>Wave/Tw | vist in Tul | be       |       | Teolio                         | Outs      | de Dimensions        |                     |              |                         |                     |

| Work Orde<br>September-24-12              |                          |  |                            | *907                           | <b>'</b> 48*             |            |              |               |            |               |                  | Page 6         |
|---|--------------------------|--|----------------------------|--------------------------------|--------------------------|------------|--------------|---------------|------------|---------------|------------------|----------------|
| Item ID: Revision ID: Item Name:          | D350-591-3 Heli-Access-S | 11<br>Step, Long LH                          |                            | Accept                         | *N900                    | <b>040</b> | 100          | ገ* ፡          | Setup      | Start<br>Stop | ı v.             | S1*<br>S2*     |
|   | 9/24/12                  | Start Qty: 10.00<br>Req'd Qty: 10.00         | *10*<br>*10*               |                                | Cust Item I<br>Customer: | D:         |              |               |            |               | iu.              |                |
| Approvals:                                |                          | an:  | Date:                      | Tooling: SPC (Y/N):            |                          | ate:       |              | ]             | Run        | Start<br>Stop |                  | R1*<br>R2*     |
| Sequence ID/<br>Work Center II            | )                        | Operation Description                        |                            | Set Up/<br>Run Hours           | Tool ID                  | Tool #     | Plan<br>Code | Accept<br>Qty | Rej<br>Qty |               | Reject<br>Number | Insp.<br>Stamp |
| *250,<br>*250,*<br>Packaging<br>Packaging |                          | Pick Kit<br>Memo                             |                            | 0.00                           |                          |            |              | 10            |            |               |                  | 12/10/17/      |
| 260 *260* QC Quality Control              |                          | QC4- 100% Inspect kits f                     | or completeness            | 0.00                           | 7/10/22                  |            |              | (HC)          |            |               |                  |                |
| 270 *270* Packaging Packaging             |                          | Packaging  Memo  Identify and the continuous | ack for shipping as per Pl | 0.00<br>0.00<br>PPD350-591-311 |                          |            |              | ٤             |            | ·             | _12/11           | 0/22 5/        |

|   |          |           |           |          |          |   |          |                    |  |          | DQA:         | Date   | :                         |
|---|----------|-----------|-----------|----------|----------|---|----------|--------------------|--|----------|--------------|--|---------------------------|
| NCR:  | Yes      | / No      |           |          |          | WORK ORDER NON-                                   | COI      | VFORM              | MANCE / UPDATE   |          |              |  | ••                        |
|   |          |           |           |          |          |   |          |                    |  |          | QA Closed:   | Date   | :<br>                     |
| Work Ord  | er.      |           |           |          |          | DISPOSITION                                       |          |                    | AGAI   | NST DE   | PARTMENT     | PROCESS                                      | •                         |
| Part  <br>NCR   | No.      |           |           |          |          | Rework<br>Scrap<br>Use-as-is<br>Work Order Update |          | Thern              | Skid-tube Crossi Machining Small noforming Finis Large Fab Compo | Fab hing |              | Water Jet d. Eng. Coor. e/Packaging Supplier | Engineering Quality Other |
| Root  |          |           |           |          | Descri   | ption of work order update                        |          | nitial             | Action   |          | Sign &       |  |                           |
| Cause   |          | Date      | Step      | Qty      | (        | or Non-conformance                                | Ch       | ief Eng            | Description  |          | Date         | Verification                                 | QC Inspector              |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved |          | ŕ         |           |          |          |   |          |                    |  |          |              |  |                           |
|   |          |           |           |          |          |   | AUL      | T CATE             | GORY   |          |              |  |                           |
| Landi   |          |           |           |          | <u> </u> | General   |          | <i>,</i> 44.€<br>1 | •  | _        | 7            | <b>-</b> -                                   | <del>-</del>              |
|   |          | Bending   |           |          | _        | Bend  | <u> </u> | Grain              |  | <u> </u> | Ovalized     | <u> </u>                                     | Pressure/Forced           |
|   | -        | Centre No | ot Concer | ntric to | o/s      | BOM/Route   | <u> </u> | Hardwa             |  |          | Over/Under   | <u> </u>                                     | Temperature/Cure          |
|   | $\vdash$ | Cracks    |           |          | <u> </u> | Broken/Damaged                                    | <u></u>  | 1                  | on Incomplete  | <u> </u> | Part Incorre | <b>)</b>                                     | Weld                      |
|   | -        | Crushed/  | Crimped.  |          | _        | Burrs   | <u></u>  | -1                 | ions Incomplete/Unclear  | <u> </u> | Part Lost/Mi | issing                                       | Wrong Stock Pulled        |
|   | -        | Cuffs     |           |          | <u> </u> | Contamination                                     |          | Mainte             | enance   | <u> </u> | Part Moved   |  |                           |
|   | 1 1      | Heat Trea | t         |          |          | Countersink                                       | 1        | Mislahe            | led  |          | Positioned V | Vrong  |                           |

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| <b>Work Ord</b><br>September-24-12                       | er ID 90748<br>2 2:54:22 PM | 3  |                    | *907                         |                          |            | Page 7       |               |                  |  |
|--|-----------------------------|--|--------------------|------------------------------|--------------------------|------------|--------------|---------------|------------------|--|
| Item ID:<br>Revision ID:                                 | D350-591-311                |  |                    | Accept                       | *N900                    | <b>040</b> | 100          | )* 5          | Setup Star       | I C'N I  |
| Item Name: Start Date: Required Date: Reference:         |                             | art Qty: 10.00<br>eq'd Qty: 10.00                        | *10*<br>*10*       |                              | Cust Item I<br>Customer: | D:         |              |               | Stop             | " *NS2*  |
| Approvals:   | Process Plan:  QC:          |  | Date:              | Tooling: SPC (Y/N):          | Date: Date:              |            |              | F             | Run Star<br>Stop | "NR1"  |
| Sequence ID/ Work Center II 280 *280* QC Quality Control | D Des                       | eration<br>scription<br>21- Final Inspection - V<br>Memo | Vork Order Release | Set Up/<br>Run Hours<br>0.00 | Tool ID                  | Tool#      | Plan<br>Code | Accept<br>Qty | Reject<br>Qty    | Reject Insp. Number Stamp  //// /// // // // // // // // // // / |

| NCR | Yes | / No |
|-----|-----|------|

DQA:

Date:

| NCR:         | CR: Yes / No                |            |            |             |     | WORK ORDER NON-C            | LON                   | FORIV    | 5<br>          |                            |                                       |                                       |                    |  |  |  |  |
|--------------|-----------------------------|------------|------------|-------------|-----|-----------------------------|-----------------------|----------|----------------|----------------------------|---------------------------------------|---------------------------------------|--------------------|--|--|--|--|
|              |                             |            | ,          |             |     | <u> </u>                    |                       |          |                |                            | QA Closed:                            | Date:                                 | 1.91               |  |  |  |  |
| Work Ord     | er.                         |            |            |             |     | DISPOSITION                 |                       |          |                | AGAINST DEPARTMENT/PROCESS |                                       |                                       |                    |  |  |  |  |
| .vork ora    |                             |            |            |             |     | Rework                      | 1 <b>1</b>            |          | Skid-tube      | Crosstube                  | T TOPE V                              | Vater Jet 🗌                           | Engineering        |  |  |  |  |
| Part         | No.                         |            |            |             |     | Scrap                       | 1                     |          | /lachining     | Small Fab                  | Prod. E                               |                                       | Quality            |  |  |  |  |
|              |                             |            |            |             |     | Use-as-is                   | <b>1  </b>            |          | oforming       | Finishing                  | Rec/Store/P                           | ackaging                              | Other              |  |  |  |  |
| NCR          | No.                         |            |            |             |     | Work Order Update           | 1                     |          | Large Fab      | Composite                  |                                       | Supplier                              | 50 (A)             |  |  |  |  |
|              |                             |            |            |             |     |                             |                       |          |                |                            | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |                                       |                    |  |  |  |  |
| Root         |                             |            |            |             |     | iption of work order update | 1                     | itial    |                | ction                      | Sign &                                | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |                    |  |  |  |  |
| Cause        |                             | Date       | Step       | Qty         |     | or Non-conformance          | Chie                  | ef Eng   | Des            | cription                   | Date V                                | erification                           | QC Inspector       |  |  |  |  |
| oc/Data      |                             |            |            |             |     |                             |                       |          |                |                            |                                       |                                       |                    |  |  |  |  |
| quip/Tooling |                             |            |            |             |     |                             |                       |          |                |                            | - 1 m                                 |                                       |                    |  |  |  |  |
| perator      |                             |            |            |             |     |                             |                       |          |                |                            | 94 Pr P                               |                                       | 9                  |  |  |  |  |
| 1aterial     | _                           |            |            |             |     |                             |                       |          |                |                            | ်ရှိသို့ ()<br>နှင့် သိမို့သို့       |                                       | . 1                |  |  |  |  |
| etup         |                             |            |            |             |     |                             |                       |          |                |                            |                                       |                                       |                    |  |  |  |  |
| ther         | _                           |            |            |             |     |                             |                       |          |                |                            | 4 % (F)                               | 50°                                   | 24<br>26           |  |  |  |  |
| rocess       | $\vdash$                    |            |            |             |     |                             |                       |          |                |                            |                                       | g Kita dari<br>garan Adalah           |                    |  |  |  |  |
| upplier      | $\vdash$                    |            |            |             |     |                             |                       |          |                |                            |                                       |                                       |                    |  |  |  |  |
| raining      | <del> </del>                |            |            |             |     |                             | :                     |          |                |                            |                                       | . 61                                  |                    |  |  |  |  |
| Inapproved   | l                           |            |            |             |     |                             | ALLIT                 | CATE     | CORV           |                            |                                       |                                       |                    |  |  |  |  |
| Land         | ing (                       | Gear       |            |             |     | General                     | AULI                  | CATE     |                |                            | 1 E. 1. 1985.                         | t 14. 38.8                            | 17. W              |  |  |  |  |
| Laria        | $\overline{}$               | Bending    |            |             |     | Bend                        | П                     | Grain    |                | Γ                          | Ovalized                              |                                       | Pressure/Forced    |  |  |  |  |
|              | $\vdash$                    | Centre No  | ot Concer  | ntric to    | o/s | BOM/Route                   | $\vdash$              | lardwai  | re             |                            | Over/Under tole                       | rance                                 | Temperature/Cure   |  |  |  |  |
|              |                             | Cracks     |            |             |     | Broken/Damaged              | $\vdash$              |          | on Incomplete  | <u> </u>                   | Part Incorrect                        |                                       | Weld               |  |  |  |  |
|              |                             |            | Crimped.   |             |     | Burrs                       | $\vdash$              |          | ons Incomplete | e/Unclear                  | Part Lost/Missin                      | g 🗀                                   | Wrong Stock Pulled |  |  |  |  |
|              | Crushed/Crimped Cuffs       |            |            |             |     | Contamination               | <b>—</b>              | Mainte   | · ·            |                            | Part Moved                            | Taraba Bala 🖳                         | _                  |  |  |  |  |
|              | Г                           | Heat Trea  | t          |             | F   | Countersink                 | $\boldsymbol{\vdash}$ | ∕lislabe |                |                            | Positioned Wron                       |                                       |                    |  |  |  |  |
|              |                             | Inspection | n Strip in | Tube        |     | Cut Too Short               |                       | Misread  |                |                            | Power Loss/Surg                       |                                       | Other              |  |  |  |  |
|              | Ripples in Bend Drill Holes |            |            | Drill Holes | П   | Offset                      |                       | <u> </u> |                |                            |                                       |                                       |                    |  |  |  |  |
|              | Γ                           | Torque W   |            | xtrusio     | ,   | Drawing                     | П                     | Out of C | alibration     |                            |                                       | Sugar S                               | .å                 |  |  |  |  |
|              | Г                           | Turning S  | equence    |             |     | Finish                      |                       | Out of S | equence        |                            | TE Lake                               |                                       |                    |  |  |  |  |
|              |                             | Wave/Tw    |            |             |     | Teolio                      | -                     |          | Dimensions     |                            | 10.00                                 |                                       |                    |  |  |  |  |

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Page 1

Work Order ID:

90748

Parent Item:

D350-591-311

Parent Item Name:

Heli-Access-Step, Long LH

**Start Date: 9/24/12** 

42

Required Date: 10/26/12

**Start Qty: 10.00** 

Required Qty: 10.00

**Comments:** 

IPP Rev:A04.03.22New issue KJ/RF

IPP Rev:B 07-06-09 Added D3272-1 JLM

IPP C returned to CHG001 for Eurocopter, ref NCR08-082 LL verifed by:EC

IPP Rev:D fixe

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D3272-1                         |                        | Manufactured  | No          |                     |                  | 110             | Each               | 35.0000        | 1           | 10           |               |                |        |
| Step                            |                        |               |             |                     |                  |                 |                    |                | e",=        |              | Re            | _12            | 10.0   |
|                                 |                        |               |             | Location            |                  | Loc Qty         | <u>L</u>           | oc Code        | _           | _            |               |                |        |
|                                 |                        |               |             | WA K                | 90707            | <b>→</b> 35     |                    |                | _(/         |              |               |                |        |
|                                 |                        |               |             | 896                 |                  | 10              |                    |                |             | フ            |               |                |        |
|                                 |                        |               |             | 896                 |                  | 10              |                    |                |             |              |               |                |        |
| D3067-1                         |                        |               | <b>N</b> 1  | 896                 | 85               | 5               |                    |                |             |              | 1             | /              |        |
| End Plate                       |                        | Manufactured  | No          |                     |                  | 110             | Each               | 56.0000        | 1           | 10           | 12            | /2 ·/          | 0.10   |
|                                 |                        |               |             | Location            | ~ = T~           | Loc Qty         | <u>L</u> c         | oc Code        |             |              |               |                |        |
|                                 |                        |               |             | wa B                | 1017             | 52              |                    |                |             | <i>i</i> ろ   |               |                |        |
|                                 |                        |               |             | 786                 |                  | 4               |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 838                 |                  | 1               |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 869                 |                  | 45              |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 878                 | 32               | 2               |                    |                |             |              |               |                |        |
|                                 |                        |               |             | WA016               | 02               | 4               |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 675<br>682          |                  | 2               |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 796                 |                  | 1               |                    |                |             |              | •             |                |        |
| D3219-1                         |                        | Manufactured  | No          |                     | •                | 110             | Each               | 170.0000       | 2           | 20           | M             |                |        |
| Plate                           |                        |               |             |                     |                  |                 |                    |                |             | _·           | 1/10          | 2.10           | .10    |
|                                 |                        |               |             | <b>Location</b>     |                  | Loc Qty         | Lo                 | oc Code        |             |              |               |                |        |
|                                 |                        |               |             | WA                  |                  | 152             |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 838:                |                  | 92              |                    |                |             | 2            |               |                |        |
|                                 |                        |               |             | 8888                | 38               | 60              |                    |                |             | <b>X</b>     |               |                |        |
|                                 |                        |               |             | WA016               |                  | 18              |                    |                | -           |              |               |                |        |
|                                 |                        |               |             | 7341                |                  | 12              |                    |                |             |              |               |                |        |
|                                 |                        |               |             | 7767                | 74               | 6               |                    |                |             |              |               |                |        |

|   |           |                                 |      |      |        |  |     |                   |  |   | DQA:                                      | Date:   | • •   |
|---|-----------|---------------------------------|------|------|--------|--|-----|-------------------|--|---|---|---|---|
| NCR: Y  | /es       | / No                            |      |      |        | <b>WORK ORDER NON-</b> 0                 | 100 | <b>NFORM</b>      | MANCE / UPI                                | DATE                                    | •   |   |   |
|   |           |                                 |      |      |        |  |     |                   | •  |   | QA Closed:                                | Date:   |   |
| Work Orde   | er:       |                                 |      |      |        | , DISPOSITION                            |     |                   |  | AGAINST DE                              | PARTMENT                                  | PROCESS                                       | •   |
| Part N  | ۔<br>. No |                                 |      |      |        | Rework Scrap Use-as-is Work Order Update |     | Therm             | Skid-tube  Machining  noforming  Large Fab | Crosstube Small Fab Finishing Composite | i .                                       | Water Jet d. Eng. Coor. re/Packaging Supplier | Engineering Quality Other                   |
| Root  |           | -                               |      |      | Descri | ption of work order update               |     | Initial           | Act  | ion                                     | Sign &                                    |   |   |
| Cause   |           | Date                            | Step | Qty  | (      | or Non-conformance                       | Ch  | ief Eng           | Descr                                      | ription                                 | Date                                      | Verification                                  | QC Inspector                                |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved |           |                                 |      |      |        | _  |     |                   |  |   |   |   |   |
|   |           |                                 |      |      |        |  | AUL | T CATE            | GORY                                       |   |   |   |   |
| Landi   |           | Bending<br>Centre No<br>Cracks  |      |      | o/s    | General Bend BOM/Route Broken/Damaged    |     | 1                 | on Incomplete                              |   | Ovalized<br>Over/Under<br>Part Incorre    | ct  | Pressure/Forced<br>Temperature/Cure<br>Weld |
|   |           | Crushed/0<br>Cuffs<br>Heat Trea | t    |      |        | Burrs Contamination Countersink          |     | Mainte<br>Mislabe | eled                                       | Unclear                                 | Part Lost/M<br>Part Moved<br>Positioned \ | Vrong   | Wrong Stock Pulled                          |
|   | -         | Inspection                      |      | Tube |        | Cut Too Short                            | _   | Misread           | i  |   | Power Loss/                               | Surge   | Other                                       |
|   | '         | Ripples in                      | Bend |      | . ]    | Drill Holes                              |     | Offset            |  |   |   |   |   |

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

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# **Picklist Print**

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Page 2

| Work Order ID: Parent Item: Parent Item Name: | 90748<br>D350-591-311<br>Heli-Access-Step, I | Long LH      |     |         |                  |            |       |            | Date: 9/24/12  |          | Required Date: 10/26/12 Required Qty: 10.00 |
|---|--|--------------|-----|---------|------------------|------------|-------|------------|----------------|----------|---|
| D3066-1<br>Spacer                             |  | Manufactured | No  |         |                  | 180        | Each  | 75.0000    | 2              | 20       | B90346 X15                                  |
|   |  |              |     | Locatio | <u>n</u>         | Loc Qty    |       | Loc Code   |                |          | 1 12 101                                    |
|   |  |              |     | WA      |                  | 75         |       |            |                |          | Ae 12.10.10                                 |
|   |  |              |     |         | 85449            | 15         |       |            |                |          |   |
| B#C00/00 + D 4***                             |  |              |     |         | 89399            | 60         |       |            | _(5)           |          |   |
| MS20600-AD4W4<br>Rivets                       |  | Purchased    | No  |         |                  | 180        | Each  | 2,746.0000 | 16             | 160      | Le 12.10.1                                  |
|   |  |              |     | Locatio | <u>n</u>         | Loc Oty    |       | Loc Code   |                |          |   |
|   |  |              |     | 321     |                  | 18         |       |            |                |          |   |
|   |  |              |     |         | 121652           | 18         |       |            |                |          |   |
|   |  |              |     | ST311   |                  | 1000       |       |            |                |          |   |
|   |  |              |     |         | 123021           | 1000       |       |            | , <del>-</del> |          | •   |
|   |  |              |     | ST321   |                  | 1728       |       |            |                | <b>-</b> |   |
|   |  |              |     |         | 121011           | 9          |       |            |                |          |   |
|   |  |              |     |         | 121340<br>121444 | 39<br>1680 |       |            |                | _        |   |
| D3065-041                                     |  | Manufactured | No  |         | 121444           | 180        | Each  | 11.0000    | 160            |          |   |
| Step Leg Assembly Hi                          |  | Manufactured | 110 |         |                  | 160        | Lacii | 11.0000    |                | 10       | B88822 (X10                                 |
|   |  |              |     | Locatio | <u>n</u>         | Loc Qty    |       | Loc Code   |                |          | Ae 12.10.                                   |
|   |  |              |     | ST      |                  | -20        |       |            |                |          | 16 19:10:1                                  |
|   |  |              |     |         | 85083            | 10         |       |            |                |          |   |
|   |  |              |     | WA      |                  | 1          |       |            |                |          | •   |
|   |  |              |     |         | 66149            | 0          |       |            |                |          |   |
|   |  |              |     |         | 79336            | 1          |       |            |                |          |   |
|   |  |              |     | WA013   |                  | 30         |       |            |                |          |   |

| NCR.  | Yes / | Nο |
|-------|-------|----|
| IVCN. | 162 / | NU |

| Mork Order:  Part No   |        |
|--|--------|
| Revork Scrap Use-as-is Work Order Update Use-as-is Work Order Update O | •      |
| Cause Date Step Qty or Non-conformance Chief Eng Description Date Verification QC Instance Occ/Data Quip/Tooling Departor Material Cetup Cocess Quipplier Training Company Cocess Quipplier Praining Company Cocess Quipplier Coces | ity    |
| toc/Data   |        |
| Adaterial perator Anaterial etup by ther crocess pupplier raining mapproved shapproved s | ector  |
| Landing Gear  Bending Centre Not Concentric to O/S  General  Grain  Grain  Hardware  Ovalized  Over/Under tolerance  Temperatu   |        |
| Bending Bend Grain Ovalized Pressure/F Centre Not Concentric to O/S BOM/Route Hardware Over/Under tolerance Temperatu  |        |
| Cracks Broken/Damaged Inspection Incomplete Part Incorrect Weld Crushed/Crimped Burrs Instructions Incomplete/Unclear Part Lost/Missing Wrong Store Cuffs Contamination Maintenance Part Moved Heat Treat Countersink Mislabeled Positioned Wrong Inspection Strip in Tube Cut Too Short Misread Power Loss/Surge Other Ripples in Bend Drill Holes Offset Torque Waves in Extrusion Drawing Out of Calibration Turning Sequence Finish Out of Sequence  | e/Cure |

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| Work Order ID:                | 90748               |              |    |                       |                         |               |      |          |               |  |                         |
|-------------------------------|---------------------|--------------|----|-----------------------|-------------------------|---------------|------|----------|---------------|--|-------------------------|
| Parent Item:                  | D350-591-311        |              |    |                       |                         |               |      | Start    | Date: 9/24/12 |  | Required Date: 10/26/12 |
| Parent Item Name:             | Heli-Access-Step, I | Long LH      |    |                       |                         |               |      | Star     | t Qty: 10.00  |  | Required Qty: 10.00     |
| D3067-1<br>End Plate          |                     | Manufactured | No |                       | RANITT                  | 180           | Each | 56.0000  | 1             | 10   | 1.12.10.12              |
|                               |                     |              |    | Location<br>WA        | 390117                  | Loc Oty<br>52 |      | Loc Code | /             | <u>)                                    </u> |                         |
|                               |                     |              |    |                       | 78608<br>83855<br>86923 | 1             |      |          |               | <del></del>                                  |                         |
|                               |                     |              |    | WA016                 | 87832                   | 45<br>2<br>4  |      |          |               |  |                         |
|                               |                     |              |    | WAOIO                 | 67582<br>68214<br>79607 | 2             |      |          |               |  | -                       |
| ANSELSA<br>Bolt               |                     | Purchased    | No |                       |                         | 250           | Each | 94.0000  | 2/40          | 20   | JB 123352               |
| do                            |                     |              |    | <u>Location</u><br>FG |                         | Loc Qty       |      | Loc Code | ,             |  | Sk.                     |
|                               |                     |              |    | 10                    | 122800                  | 10            |      |          |               |  |                         |
| 4                             | ÷                   |              |    | ST353                 | 122800                  | 84<br>84      |      |          | 6+122         | 800  |                         |
| D3235±1<br>Mounting Lug       |                     | Manufactured | No |                       |                         | 250           | Each | 56.0000  | 2 900         | 020  | 28                      |
| .D                            |                     |              |    | Location              |                         | Loc Qty       |      | Loc Code |               |  |                         |
|                               |                     |              |    | ST471                 |                         | 50            |      |          |               |  |                         |
|                               |                     |              |    |                       | 88262                   | 50            |      |          |               |  |                         |
|                               |                     |              |    | ST481                 | 02052                   | 6             |      |          |               |  |                         |
| D3278-041<br>Support Assembly |                     | Manufactured | No |                       | 83853                   | 250           | Each | 63.0000  | 1             | 10   | ~2B 12/10/1             |
|                               |                     |              |    | Location              |                         | Loc Qty       |      | Loc Code |               |  |                         |
|                               |                     |              |    | ST470                 |                         | 40            |      |          |               |  |                         |
|                               |                     |              |    |                       | 89106                   | 40            |      |          | 891           | 16   |                         |
|                               |                     |              |    | ST481                 |                         | 23            |      |          |               |  |                         |
|                               |                     |              |    |                       | 83858                   | 23            |      |          |               |  |                         |

|               |         |            |           |          |  |     |          |                       |   | DQA:         | bate:                     |                    |
|---------------|---------|------------|-----------|----------|--|-----|----------|-----------------------|---|--------------|---------------------------|--------------------|
| NCR:          | Yes / N | o          |           |          | WORK ORDER NON-  | COI | NFORM    | MANCE / UPDAT         |   | QA Closed:   | Date:                     | •                  |
| Work Ord      | er·     |            |           |          | DISPOSITION  |     |          |                       | AGAINST DEF   | ··           |                           | •                  |
| Part I        | No      |            |           |          | Rework Skid-tube Crosstube Scrap Machining Small Fab Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite |     |          | Small Fab Finishing   | Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier |              | Engineering Quality Other |                    |
| Root          |         |            |           | Descri   | ption of work order update   |     | Initial  | Action                |   | Sign &       |                           |                    |
| Cause         | Dat     | e Step     | Qty       | (        | or Non-conformance   | Ch  | nief Eng | Description           | on  | Date         | Verification              | QC Inspector       |
| Doc/Data      |         |            |           |          |  |     |          |                       |   |              |                           |                    |
| Equip/Tooling |         |            |           |          |  |     |          |                       |   |              |                           | ĺ                  |
| Operator      |         |            | 1         |          |  |     |          |                       |   |              |                           |                    |
| Material      |         |            |           |          |  |     |          |                       |   |              |                           |                    |
| Setup         |         | Ì          |           | ·.       |  |     |          |                       |   |              |                           |                    |
| Other         |         |            |           |          |  |     |          |                       |   |              |                           |                    |
| Process       |         |            |           |          |  |     | i        |                       |   |              |                           |                    |
| Supplier      |         |            |           |          |  |     |          |                       |   |              |                           |                    |
| Training      |         |            |           | 1        |  |     |          |                       |   |              |                           |                    |
| Unapproved    |         |            |           |          |  |     |          |                       |   |              |                           |                    |
|               |         |            |           |          | F  | AUL | T CATE   | GORY                  |   |              |                           |                    |
| Landi         | ng Gear |            |           | <u>:</u> | General  |     | -        |                       |   |              |                           | <del>-</del>       |
|               | Bendi   | ng         |           |          | Bend   |     | Grain    |                       |   | Ovalized     |                           | Pressure/Forced    |
|               | Centre  | Not Conce  | entric to | o/s      | BOM/Route  |     | Hardwa   | re                    |   | Over/Under   | tolerance                 | Temperature/Cure   |
|               | Cracks  |            |           |          | Broken/Damaged   |     | Inspecti | on Incomplete         |   | Part Incorre | ct                        | Weld               |
|               | Crush   | ed/Crimped | <b>.</b>  |          | Burrs  |     | Instruct | ions Incomplete/Uncle | ear 🗌   | Part Lost/M  | issing                    | Wrong Stock Pulled |
|               | Cuffs   |            |           |          | Contamination  |     | Mainte   | enance                |   | Part Moved   |                           |                    |
|               | Heat 1  | reat       |           |          | Countersink  |     | Mislabe  | eled                  |   | Positioned V | Vrong                     |                    |

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

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| Work Order ID:             | 90748               |              |    |                 |         |      |          |               |                 |                            |
|----------------------------|---------------------|--------------|----|-----------------|---------|------|----------|---------------|-----------------|----------------------------|
| Parent Item:               | D350-591-311        |              |    |                 |         |      | Start l  | Date: 9/24/12 | Required Date:  | 10/26/12                   |
| Parent Item Name:          | Heli-Access-Step, L | ong LH       |    |                 |         |      | Start    | Qty: 10.00    | Required Qty:   | 10.00                      |
| AN960JD416<br>Washer       | NAS1149D0463J       | Purchased    | No |                 | 250     | Each | 29.0000  | 1224          | 160<br>52 1B    | 8                          |
| olo \                      |                     |              |    | <b>Location</b> | Loc Qty |      | Loc Code |               |                 |                            |
| \                          |                     |              |    | ST351           | 29      |      |          |               | _               |                            |
| \                          |                     |              |    | 116289          | 8       |      |          |               | _               |                            |
|                            |                     |              |    | 119097          | 21      |      |          |               | _               |                            |
| AN960JD516<br>Washer<br>40 | NAS1149D0563J       | Purchased    | No |                 | 250     | Each | 2.0000   | 1212          | 40<br>55 1B     | <b>*</b>                   |
| HD                         |                     |              |    | Location        | Loc Qty |      | Loc Code |               | 0               |                            |
| \                          |                     |              |    | ST338           | 2       |      |          |               |                 |                            |
|                            |                     |              |    | 1069059         | 2       |      |          |               |                 |                            |
| ANSE6A<br>Bolt             |                     | Purchased    | No |                 | 250     | Each | 176.0000 | 2             | 20 2 2 8        |                            |
| Bolt<br>A 0                |                     |              |    | Location        | Loc Qty |      | Loc Code |               |                 |                            |
|                            |                     |              |    | ST338           | 50      |      |          |               | _               |                            |
|                            |                     |              |    | 123021          | 50      |      |          |               | _               |                            |
|                            |                     |              |    | ST340           | 26      |      |          |               | _               |                            |
|                            |                     |              |    | 122141          | 26      |      |          |               | _               |                            |
| 1                          |                     |              |    | ST358           | 100     |      | 1        | 100           | 7 A S           |                            |
|                            |                     |              |    | 122808          | 100     |      |          | 1228          |                 |                            |
| D2618<br>Bushing           |                     | Manufactured | No |                 | 250     | Each | 99.0000  |               | 20 /<br>JB      | 12/10/1                    |
|                            |                     |              |    | <b>Location</b> | Loc Qty |      | Loc Code |               | V               | 12/10/1<br><b>1</b> 2/10/1 |
|                            |                     |              |    | ST013           | 99      |      |          |               | _               |                            |
|                            |                     |              |    | 76130           | 2       |      |          |               | _               |                            |
|                            |                     |              |    | 84646           | 3       |      |          |               | <del>-</del>    |                            |
|                            |                     |              |    | 85446           | 10      |      |          | A . C.        | <del>-</del> -/ |                            |
|                            |                     |              |    | 86844           | 84      |      |          | 8684          | 4               |                            |

| NCR: | Yes | / | No |
|------|-----|---|----|
|------|-----|---|----|

DQA: Date:

| NCR: Y       |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
|--------------|------------|------------|------------|------------|-----|-------------|--------------------------------|---------|----------|--------------------|---------------------------------------|---------------|-------------------------|--------------------|
|              |            |            |            |            |     |             |                                |         |          |                    |                                       | QA Closed:    | Date                    | -                  |
| Work Orde    | ır.        |            |            |            |     |             | DISPOSITION                    |         |          |                    | AGAINST DE                            | PARTMENT/     | PROCESS                 | •                  |
|              | •          |            |            | . <u> </u> |     |             | Rework                         |         |          | Skid-tube          | Crosstube                             |               | Water Jet               | Engineering        |
| Part N       | lo.        |            |            |            |     |             | Scrap                          |         |          | Machining          | Small Fab                             | 4             | d. Eng. Coor.           | Quality            |
| NCR N        | 10.        |            |            |            |     |             | Use-as-is<br>Work Order Update |         |          | oforming Large Fab | Finishing<br>Composite                | Rec/Stor      | e/Packaging<br>Supplier | Other              |
| Root         | $\neg$     |            |            |            | Des | cri         | tion of work order update      | Н       | nitial   | Ac                 | ction                                 | Sign &        |                         |                    |
| Cause        |            | Date       | Step       | Qty        |     |             | or Non-conformance             | Ch      | ief Eng  | Desc               | cription                              | Date          | Verification            | QC Inspector       |
| oc/Data      |            |            |            |            |     | 7           |                                |         |          |                    | · · · · · · · · · · · · · · · · · · · |               |                         |                    |
| quip/Tooling |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
| perator      |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
| 1aterial     |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
| etup         |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
| ther         |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
| rocess       |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
| upplier      |            |            |            |            |     |             |                                |         |          |                    |                                       |               | · ·                     |                    |
| raining      |            |            |            |            |     |             |                                | 1       |          |                    |                                       |               |                         |                    |
| Inapproved   |            |            |            |            |     |             |                                |         |          |                    |                                       |               |                         |                    |
|              |            |            | ·          |            |     |             | F                              | AUL     | T CATE   | GORY               |                                       |               |                         | ,                  |
| Landi        | ng G       | iear       |            |            |     |             | General                        |         | _        |                    |                                       | _             |                         | _                  |
|              |            | Bending    |            |            |     |             | Bend                           |         | Grain    |                    |                                       | Ovalized      |                         | Pressure/Forced    |
|              |            | Centre No  | ot Concer  | ntric to   | O/S |             | BOM/Route                      |         | Hardwa   | re                 |                                       | Over/Under    | tolerance               | Temperature/Cure   |
|              |            | Cracks     |            |            |     |             | Broken/Damaged                 | L       | Inspecti | on Incomplete      |                                       | Part incorred | t                       | Weld               |
|              |            | Crushed/0  | Crimped.   |            |     |             | Burrs                          |         | Instruct | ions Incomplete,   | /Unclear                              | Part Lost/Mi  | ssing                   | Wrong Stock Pulled |
|              |            | Cuffs      |            |            |     |             | Contamination                  |         | Mainte   | nance              | [.                                    | Part Moved    |                         |                    |
|              | Heat Treat |            |            |            |     | Countersink |                                | Mislabe | led      |                    | Positioned V                          | Vrong         | <u> </u>                |                    |
| !            |            | Inspection | n Strip in | Tube       |     |             | Cut Too Short                  |         | Misread  | I                  | Γ                                     | Power Loss/   | Surge                   | Other              |
| i            |            | Ripples in | Bend       |            |     |             | Drill Holes                    |         | Offset   |                    |                                       |               |                         |                    |
|              |            | Torque W   | aves in E  | Extrusio   | n   |             | Drawing                        | Г       | Out of 0 | Calibration        |                                       |               |                         |                    |
|              |            | Turning Se | equence    |            |     |             | Finish                         |         | Out of 9 | Sequence           |                                       |               |                         |                    |
|              |            | Wave/Tw    | ist in Tub | эe         |     |             | 1<br>Folio                     |         | Outside  | Dimensions         |                                       |               |                         |                    |

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| Work Order ID:              | 90748               |              |    |         |          |          |      |            |                   |               |              |
|-----------------------------|---------------------|--------------|----|---------|----------|----------|------|------------|-------------------|---------------|--------------|
| Parent Item:                | D350-591-311        |              |    |         |          |          |      | Start I    | Date: 9/24/12     | Required Da   | te: 10/26/12 |
| Parent Item Name:           | Heli-Access-Step, I | Long LH      |    |         |          |          |      | Start      | <b>Qty:</b> 10.00 | Required Q    | ty: 10.00    |
| D2230-3                     |                     | Manufactured | No |         |          | 250      | Each | 115.0000   | 797               | 40 V<br>82 1B |              |
| ·<br>•                      |                     |              |    | Locatio | <u>n</u> | Loc Qty  |      | Loc Code   |                   |               |              |
| 410                         |                     |              |    | FG      |          | 4        |      |            |                   |               |              |
| 40                          |                     |              |    |         | 89045    | 4        |      |            |                   |               |              |
|                             |                     |              |    | ST469   |          | 111      |      |            |                   | <del></del>   |              |
|                             |                     |              |    |         | 88185    | 48       |      |            |                   | _             |              |
|                             |                     |              |    |         | 89045    | 63       |      |            |                   | _             |              |
| D2856-400<br>Abrasion Strip |                     | Manufactured | No |         |          | 250      | f    | 322.3994   | 1.2               | 12 JB         |              |
|                             |                     |              |    | Locatio | <u>n</u> | Loc Qty  |      | Loc Code   |                   | ,             |              |
| @ 1-20" (27 1/2)?           | ally                |              |    | ST403   |          | 218.198  |      |            |                   |               |              |
| A Sec                       | $_{\mathcal{A}}$    |              |    |         | 81875    | 6.398    |      |            |                   | <del></del>   |              |
| 0 40 17 CY                  | 2/10/11             |              |    |         | 89352    | 211.8    |      | 4          | 1.8 89358         | <del>)</del>  |              |
| -( 6)                       | , - ,               |              |    | ST409   |          | 104.2014 |      |            | -                 | _             |              |
|                             |                     |              |    |         | 63735    | 0.6696   |      |            | -                 | <del></del>   |              |
|                             |                     |              |    |         | 68076    | 0.3149   |      |            |                   | _             |              |
| A                           |                     |              |    |         | 71164    | 8.46     |      | 1.         | 1                 |               |              |
|                             |                     |              |    |         | 86905    | 94.7569  |      | /.         | 8690:             | <u>\$</u>     |              |
| MS21042123<br>Nut           |                     | Purchased    | No |         |          | 250      | Each | 2,493.0000 | (2)               | 20 V          | 12/10//      |
| 110                         |                     |              |    | Locatio | <u>n</u> | Loc Qty  |      | Loc Code   |                   | ν             |              |
|                             |                     |              |    | 316     |          | 719      |      |            |                   |               |              |
|                             |                     | •            |    |         | 122452   | 719      |      |            |                   | _             |              |
|                             |                     |              |    | ST300   |          | 546      |      |            |                   | _             |              |
|                             |                     |              |    |         | 117885   | 32       |      |            |                   |               |              |
|                             |                     |              |    |         | 119017   | 376      |      |            |                   |               |              |
|                             |                     |              |    |         | 119075   | 138      |      |            |                   |               |              |
|                             |                     |              |    | ST317   |          | 1228     |      |            |                   |               | ,            |
|                             |                     |              |    |         | 122141   | 1228     |      |            |                   |               |              |

|               |      |           |           |          |        |                            |     |          |                  |            | DQA:         | Date:         |                    |
|---------------|------|-----------|-----------|----------|--------|----------------------------|-----|----------|------------------|------------|--------------|---------------|--------------------|
| NCR:          | /es  | / No      |           |          |        | WORK ORDER NON-C           | O   | NFOR     | MANCE / UP       | DATE       | ·            | _             | •                  |
|               |      |           |           |          |        |                            |     |          |                  |            | QA Closed:   | Date:         |                    |
| Work Orde     | or.  |           |           |          |        | DISPOSITION                |     |          |                  | AGAINST DE | PARTMENT,    | PROCESS       | •                  |
| WORK OT UK    | -''- |           |           |          |        | Rework                     | 1   |          | Skid-tube        | Crosstube  | ]            | Water Jet     | Engineering        |
| Part N        | do.  |           |           |          |        | Scrap                      | 1   |          | Machining        | Small Fab  | Pro          | d. Eng. Coor. | Quality            |
| 1             | -    |           |           |          | ····   | Use-as-is                  | 1   |          | noforming        | Finishing  | 4            | re/Packaging  | Other              |
| NCR N         | ١o.  |           |           |          |        | Work Order Update          |     |          | Large Fab        | Composite  |              | Supplier      |                    |
|               | _    |           |           |          |        |                            | 4   |          |                  |            | <u> </u>     |               |                    |
| Root          |      |           |           |          | Descri | ption of work order update | ı   | nitial   | Ac               | tion       | Sign &       |               |                    |
| Cause         |      | Date      | Step      | Qty      | (      | or Non-conformance         | Ch  | ief Eng  | Desc             | ription    | Date         | Verification  | QC Inspector       |
| Doc/Data      |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
| Equip/Tooling |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
| Operator      |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
| Material      |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
| Setup         |      |           |           |          |        |                            |     |          |                  |            |              | ,             |                    |
| Other         |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
| Process       |      |           |           | 1        | •      |                            |     |          |                  |            |              |               |                    |
| Supplier      |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
| Training      |      |           |           |          |        |                            |     |          | ĺ                |            |              |               |                    |
| Unapproved    |      |           |           |          |        |                            |     |          |                  |            |              |               |                    |
|               |      |           |           |          |        | F                          | AUL | T CATE   | GORY             |            |              |               |                    |
| Landi         | ng G | ear       |           |          |        | General                    |     |          |                  |            |              | <u></u>       |                    |
|               |      | Bending   |           |          |        | Bend                       |     | Grain    |                  |            | Ovalized     |               | Pressure/Forced    |
|               |      | Centre No | ot Concer | ntric to | o/s    | BOM/Route                  |     | Hardwa   | ire              |            | Over/Under   | tolerance     | Temperature/Cure   |
| ,             |      | Cracks    |           |          |        | Broken/Damaged             |     | Inspect  | ion Incomplete   |            | Part Incorre | ct            | Weld               |
|               |      | Crushed/  | Crimped.  |          |        | Burrs                      |     | Instruct | tions Incomplete | /Unclear   | Part Lost/M  | issing        | Wrong Stock Pulled |

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Part Moved

Positioned Wrong

Power Loss/Surge

Other

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cuffs

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

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### **Picklist Print**

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Page 6

Work Order ID:

90748

Parent Item:

D350-591-311

Parent Item Name:

Heli-Access-Step, Long LH

**Start Date:** 9/24/12

Required Date: 10/26/12

**Start Qty: 10.00** 

Required Qty: 10.00

| ANA-18A<br>Bolt | Purchased | No       | 250 Each | 1,694.0000 8 80                       | JB St       |
|-----------------|-----------|----------|----------|---------------------------------------|-------------|
| ao<br>Ao        |           | Location | Loc Qty  | Loc Code                              |             |
| •               |           | FG       | 20       |                                       |             |
|                 |           | 122808   | 20       | 33×122808                             |             |
|                 |           | ST356    | 1481     |                                       |             |
|                 |           | 118838   | 8        | <del></del>                           |             |
|                 |           | 122416   | 498      | 47×122416                             |             |
|                 |           | 122808   | 475      | · · · · · · · · · · · · · · · · · · · |             |
|                 |           | 122993   | 500      |                                       |             |
|                 |           | ST357    | 193      |                                       |             |
|                 |           | 120187   | 19       |                                       |             |
|                 |           | 120770   | 12       |                                       |             |
|                 |           | 121652   | 161      |                                       |             |
|                 |           | 122063   | 1        |                                       | ,           |
| MS21042L5       | Purchased | No       | 250 Each | 1,469.0000 2 3                        |             |
| ) Nut           |           |          |          |                                       | 18 12/10/16 |

| Location | Loc Oty | Loc Code |         |
|----------|---------|----------|---------|
| 300      | 363     |          |         |
| 121652   | 363     |          | 1216 72 |
| 314      | 1000    |          |         |
| 122452   | 1000    |          |         |
| ST300    | 106     |          |         |
| 108827   | 4       | ٠.       |         |
| 116105   | I       |          |         |
| 116548   | 43      |          |         |
| 119109   | 46      |          |         |
| 2937     | 12      |          |         |

|               |       |             |             |          |     |                                       |     |          |                 |            | DQA:         | Date:         |                    |
|---------------|-------|-------------|-------------|----------|-----|---------------------------------------|-----|----------|-----------------|------------|--------------|---------------|--------------------|
| NCR:          | Yes   | / No        |             |          |     | WORK ORDER NON-                       | COI | NFORM    | MANCE / UP      | DATE       |              |               | **                 |
|               |       |             |             |          |     | · · · · · · · · · · · · · · · · · · · |     |          |                 |            | QA Closed:   | Date:         |                    |
| Work Ord      | er.   |             |             |          |     | DISPOSITION                           |     |          |                 | AGAINST DE | PARTMENT     | /PROCESS      | •                  |
|               |       | <del></del> | <del></del> |          |     | Rework                                | 7   |          | Skid-tube       | Crosstube  | 7            | Water Jet     | Engineering        |
| Part 1        | No.   |             |             |          |     | Scrap                                 | 1   | 1        | Machining       | Small Fab  | Pro          | d. Eng. Coor. | Quality            |
| <b>*</b>      |       |             |             |          |     | Use-as-is                             |     | Therm    | noforming       | Finishing  | Rec/Sto      | re/Packaging  | Other              |
| NCR           | No.   |             |             |          |     | Work Order Update                     |     |          | Large Fab       | Composite  | ]            | Supplier      |                    |
| ,             |       |             |             | -        | ,   |                                       |     | <u> </u> |                 |            | <del>,</del> | <b>F</b>      |                    |
| Root          |       |             |             |          |     | ption of work order update            |     | Initial  |                 | tion       | Sign &       |               |                    |
| Cause         | _     | Date        | Step        | Qty      |     | or Non-conformance                    | Cł  | nief Eng | Desc            | ription    | Date         | Verification  | QC Inspector       |
| Doc/Data      |       |             |             |          |     |                                       |     |          |                 |            | 1            |               |                    |
| Equip/Tooling |       |             |             |          |     |                                       | 1   |          |                 |            |              |               |                    |
| Operator      |       |             |             |          |     |                                       |     |          |                 |            |              |               |                    |
| Material      |       |             | 1           |          |     |                                       |     |          |                 |            |              |               | ·                  |
| Setup         |       |             |             |          |     |                                       |     |          |                 |            |              |               |                    |
| Other         |       |             |             |          |     |                                       |     |          |                 |            |              |               | •                  |
| Process       |       |             |             |          |     |                                       |     |          |                 |            |              |               |                    |
| Supplier      |       |             |             | l        |     |                                       |     |          |                 |            |              |               |                    |
| Training      |       |             |             |          |     |                                       |     |          |                 |            |              |               |                    |
| Unapproved    |       |             |             | <u> </u> |     |                                       |     |          |                 |            |              |               |                    |
|               |       |             |             |          |     | F                                     | AUI | LT CATE  | GORY            |            |              |               |                    |
| Landi         | ing ( | Gear        |             |          |     | General                               |     | _        |                 |            | _            |               | _                  |
|               | L     | Bending     |             |          |     | Bend                                  |     | Grain    |                 |            | Ovalized     |               | Pressure/Forced    |
|               |       | Centre No   | ot Conce    | ntric to | o/s | BOM/Route                             |     | Hardwa   | re              |            | Over/Under   | tolerance     | Temperature/Cure   |
|               |       | Cracks      |             |          |     | Broken/Damaged                        |     | Inspecti | on Incomplete   |            | Part Incorre | ct            | Weld               |
|               |       | Crushed/    | Crimped     | -        |     | Burrs                                 |     | Instruct | ions Incomplete | 'Unclear   | Part Lost/M  | issing        | Wrong Stock Pulled |
|               |       | Cuffs       |             |          |     | Contamination                         | Г   | Mainte   | enance          |            | Part Moved   | <b></b>       | _                  |
|               |       | Heat Trea   | at ·        |          |     | Countersink                           | Г   | Mislabe  | led             |            | Positioned \ | Wrong         |                    |
|               |       | Inspectio   | n Strip in  | Tube     |     | Cut Too Short                         |     | Misread  | 1               |            | Power Loss   | /Surge        | Other              |

Offset

Out of Calibration.

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

### **Picklist Print**

September-24-12 2:54:21 PM

Page 7

Work Order ID:

90748

Parent Item:

D350-591-311

NAS1149D0363J

Purchased

No

Parent Item Name:

Heli-Access-Step, Long LH

**Start Date:** 9/24/12

Required Date: 10/26/12

**Start Qty: 10.00** 

28×122378 12×123248

0.0000

Each

Required Qty: 10.00

| MS21042143<br>Nut | Purchased | No              | 250 Ea  | ch 6,115.0000 | 80 - JB |  |
|-------------------|-----------|-----------------|---------|---------------|---------|--|
| AD                |           | <b>Location</b> | Loc Oty | Loc Code      | •       |  |
| <b>.</b>          |           | 314             | 3085    |               |         |  |
|                   |           | 122452          | 3085    |               | 122452  |  |
|                   |           | FP001           | 3       |               |         |  |
|                   |           | 8182            | 3       |               |         |  |
|                   |           | ST300           | 27      |               |         |  |
|                   |           | 119017          | 20      |               |         |  |
|                   |           | 121444          | 7       |               |         |  |
|                   |           | ST314           | 3000    |               |         |  |
|                   |           | 123021          | 3000    |               |         |  |

250

12/10/16

|               |                 |           |            |          |              |                            |     |          |                  |            | DQA:         | Date:         | •                  |
|---------------|-----------------|-----------|------------|----------|--------------|----------------------------|-----|----------|------------------|------------|--------------|---------------|--------------------|
| NCR:          | Yes             | / No      |            |          |              | <b>WORK ORDER NON-</b>     | COI | NFORN    | MANCE / UP       | DATE       |              |               | ÷                  |
|               |                 |           |            |          |              |                            |     |          |                  |            | QA Closed:   | Date:         |                    |
| Work Orde     | or.             |           |            |          |              | DISPOSITION                |     |          |                  | AGAINST DE | PARTMENT     | /PROCESS      | •                  |
| Work Ord      | ٠٠.             |           |            |          |              | Rework                     | 7   |          | Skid-tube        | Crosstube  |              | Water Jet     | Engineering        |
| Part I        | No.             |           |            |          | •            | Scrap                      | 1   |          | Machining        | Small Fab  | Pro          | d. Eng. Coor. | Quality            |
|               | •               | •         |            |          | <del> </del> | Use-as-is                  | 1   | Therm    | noforming        | Finishing  | Rec/Sto      | re/Packaging  | Other              |
| NCR I         | No.             |           |            |          |              | Work Order Update          | ]   |          | Large Fab        | Composite  |              | Supplier      |                    |
|               |                 |           | 1          |          | Donosi       |                            | Τ,  | المنعندا | Λ.               | tion.      | Cian 0       | T             |                    |
| Root          |                 | D-4-      | C          | 04       |              | ption of work order update | )   | nitial   |                  | tion       | Sign &       | Vanifiantian  | OC Inchastor       |
| Cause         | -               | Date      | Step       | Qty      |              | or Non-conformance         | Cr  | ief Eng  | Desc             | ription    | Date         | Verification  | QC Inspector       |
| Doc/Data      | $\vdash \vdash$ |           |            |          | İ            |                            |     |          |                  |            |              |               | i                  |
| Equip/Tooling | Ш               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Operator      | Н               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Material      | Ш               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Setup         | Н               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Other         | Щ               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Process       | Ш               |           | 1          |          |              |                            |     |          |                  |            |              |               |                    |
| Supplier      | Ш               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Training      | Ш               |           |            |          |              |                            |     |          |                  |            |              |               |                    |
| Unapproved    |                 |           |            |          |              |                            |     |          |                  |            |              |               |                    |
|               |                 |           |            |          |              | <u> </u>                   | AUL | T CATE   | GORY             |            |              |               |                    |
| Landi         | ng G            | Gear      |            |          |              | General                    |     | •        |                  |            | -            |               |                    |
|               | Ш               | Bending   |            |          |              | Bend                       | L   | Grain    |                  |            | Ovalized     |               | Pressure/Forced    |
|               | Ш               | Centre No | ot Concer  | ntric to | o/s          | BOM/Route                  |     | Hardwa   | re               |            | Over/Under   | tolerance     | Temperature/Cure   |
|               |                 | Cracks    |            |          |              | Broken/Damaged             |     | Inspecti | on Incomplete    |            | Part Incorre | ct            | Weld               |
|               | $\square$       | Crushed/  | Crimped.   |          |              | Burrs                      |     | Instruct | ions Incomplete/ | 'Unclear   | Part Lost/M  | issing        | Wrong Stock Pulled |
|               |                 | Cuffs     |            |          |              | Contamination              |     | Mainte   | nance            |            | Part Moved   |               | _                  |
|               |                 | Heat Trea | ıt         |          |              | Countersink                |     | Mislabe  | led              |            | Positioned \ | Wrong         |                    |
|               | П               | Inspectio | n Strip in | Tube     |              | Cut Too Short              |     | Misread  | i                |            | Power Loss,  | 'Surge        | Other              |

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

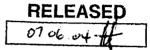
Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G



|       |      |          |  | •            |
|-------|------|----------|--|--------------|
| DESIG | P    | DRAWN BY | DART AEROSPACE<br>HAWKESBURY, ONTARIO, CANAL |              |
| CHEC  | _    | APPROVED | DRAWING NO.                                  | REV. B       |
| (     | E    | 世        | D3272  | SHEET 1 OF 3 |
| DATE  |      |          | TITLE  | SCALE        |
| 07.0  | 5.18 |          | STEP ASSEMBLY, HI LONG                       | NTS          |
| Α     |      | 04.03.01 | NEW ISSUE                                    |              |
| В     |      | 07.05.18 | D3272-1 WAS D2622-120                        |              |



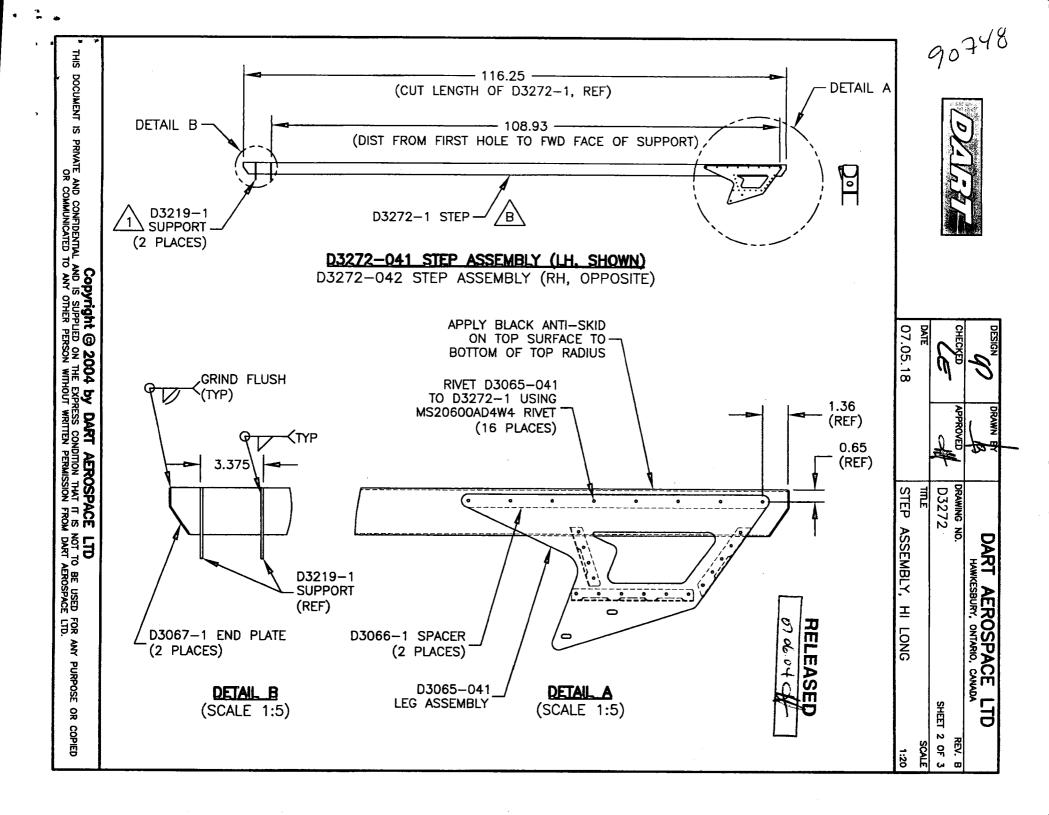
| QTY<br>-041 | QTY<br>-042 | PART NUMBER  | DESCRIPTION                   |
|-------------|-------------|--------------|-------------------------------|
| X           |             | D3272-041    | STEP ASSEMBLY, HIGH LONG (LH) |
|             | Х           | D3272-042    | STEP ASSEMBLY, HIGH LONG (RH) |
| 1           | 1           | D3065-041    | LEG ASSEMBLY                  |
| 2           | 2           | D3066-1      | SPACER                        |
| 2           | 2           | D3067-1      | END PLATE                     |
| 2           | 2           | D3219-1      | SUPPORT                       |
| 1           | 1           | D3272-1      | STEP                          |
| 16          | 16          | MS20600AD4W4 | RIVET                         |
| 1           |             |              |                               |

- **GENERAL NOTES:** D3272-041 SHOWN. FOR D3272-042, INSTALL D3219-1 SUPPORT OPPOSITE SIDE
  - 2) WELD PER DART QSI 004
  - 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005.4.1 POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
  - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
  - 5) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
  - 6) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX.

(INCONTINO) LED COPY SETRIFICATION AMENDMENT **ENCHANGERING** 

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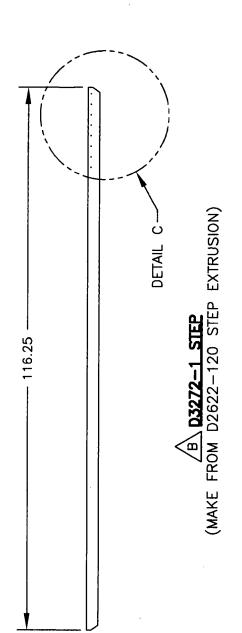
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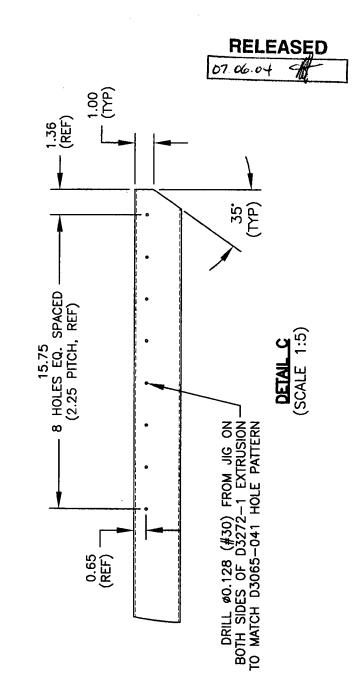






| DESIGN   | DRAWN BY   | DART AEROSPACE<br>HAWKESBURY, ONTARIO, CAI |              |
|----------|------------|--|--------------|
| CHECKED  | APPROVED / | DRAWING NO.                                | REV. B       |
| LE       |            | D3272                                      | SHEET 3 OF 3 |
| DATE     |            | TITLE                                      | SCALE        |
| 07.05.18 |            | STEP ASSEMBLY, HI LONG                     | 1:20         |





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# REFERENCE ONLY

### DART AEROSPACE LTD.

D350-591 Page 23 of 23

| Qty<br>-211 | Qty<br>-212 | Qty<br>-213 | Qty<br>-214 | Qty<br>-215 | Qty<br>-216 | Qty<br>-311    | Qty<br>-312               | Part Number            | Description                                   |
|-------------|-------------|-------------|-------------|-------------|-------------|----------------|---------------------------|------------------------|---|
| Х           |             |             |             |             |             |                |                           | D350-591-211           | Heli-Access-Step™, Long Step – High Skid, LH  |
|             | Х           |             |             |             |             |                |                           | D350-591-212           | Heli-Access-Step™, Long Step - High Skid, RH  |
|             |             | Х           |             |             |             |                |                           | D350-591-213           | Heli-Access-Step™, Short Step – High Skid, LH |
|             |             |             | Х           |             |             |                |                           | D350-591-214           | Heli-Access-Step™, Short Step – High Skid, RH |
|             |             |             |             | Х           |             |                |                           | D350-591-215           | Heli-Access-Step™, Short Step - Low Skid, LH  |
|             |             |             |             |             | Х           |                |                           | D350-591-216           | Heli-Access-Step™, Short Step – Low Skid, RH  |
|             |             |             |             |             |             | Х              |                           | D350-591-311           | Heli-Access-Step™, Long Step – High Skid, LH  |
|             |             |             |             |             |             |                | Х                         | D350-591-312           | Heli-Access-Step™, Long Step - High Skid, RH  |
|             |             |             |             |             |             |                |                           |                        |   |
| 1           |             |             |             |             |             |                |                           | D3070-041              | STEP ASSEMBLY (HIGH-LONG, LH)                 |
|             | 1           |             |             |             |             |                |                           | D3070-042              | STEP ASSEMBLY (HIGH-LONG, RH)                 |
|             |             | 1           |             |             |             |                |                           | D3078-041              | STEP ASSEMBLY (HIGH-SHORT, LH)                |
|             |             |             | 1           |             |             |                |                           | D3078-042              | STEP ASSEMBLY (HIGH-SHORT, RH)                |
|             |             |             |             | 1           |             |                |                           | D3168-041              | STEP ASSEMBLY (LOW-SHORT, LH)                 |
|             |             |             |             |             | 1           |                |                           | D3168-042              | STEP ASSEMBLY (LOW-SHORT, RH)                 |
|             |             |             |             |             |             | 1              |                           | D3272-041              | STEP ASSEMBLY (HIGH-LONG, LH)                 |
|             |             |             |             |             |             |                | 1                         | D3272-042              | STEP ASSEMBLY (HIGH-LONG, RH)                 |
| 4           | 4           |             |             |             |             |                |                           | D2182B035              | RUBBER CUSHION                                |
|             |             | 2           | 2           | 2           | 2           |                |                           | D2230-1                | MOUNTING LUG                                  |
|             |             | 2           | 2           | 2           | 2           | /4             | 4                         | D2230-3                | MOUNTING LUG                                  |
| 8           | 8           |             |             |             |             | Garage Control | -constant conta           | D2274                  | RADIUS BLOCK                                  |
|             |             | -           |             |             |             | 12             | 2                         | D2618 7                | BUSHING                                       |
| 4           | 4           | 4           | 4           | 4           | 4           |                |                           | _D2732-030             | CUSHION                                       |
| 2           | 2           | 1           | 1           | 1           | 1           | 12             | 2                         | D2856-400-720 7        | ABRASION STRIP                                |
| 2           | 2           |             |             |             |             | 1              |                           | D3064-1                | CLAMP   |
| 1           | 1           |             |             |             |             |                |                           | D3079-041              | SUPPORT ASSEMBLY                              |
| 4           | 4           |             |             |             |             |                | · marine de la companione | _D3080-1               | CLAMP   |
|             |             |             |             |             |             | 12             | 2                         | D3235-1 🗸              | MOUNTING LUG                                  |
| <u> </u>    |             |             |             |             |             | 7 1            | 1                         | _D3278-041/            | SUPPORT ASSEMBLY                              |
|             |             |             |             |             |             | <b> </b>       | W. C                      |                        |   |
| 2           | 2           | 2           | 2           | 2           | 2           | <b>(</b> 2     | 2                         | AN3-35A                | BOLT  |
| 10          | 10          | 2           | 2           | 2           | 2           |                |                           | AN4-11A-               | BOLT  |
|             |             | 4           | 4           | 4           | 4           | <b>1</b> 8     | 8                         | AN4-13A                | BOLT  |
|             |             |             |             |             |             | 1 2            | 2                         | AN5-36A 🛴              | BOLT  |
| 4           | 4           | 4           | 4           | 4           | 4           | 4              | 4                         | -AN960JD10 /           | WASHER  |
| 20          | 20          | 12          | 12          | 12          | 12          | <b>/</b> 16    | 16                        | AN960JD416             | WASHER  |
|             |             |             |             |             |             | 4-4-           | 4 5 00                    | ∞AN960JD516            | *WASHER                                       |
| 2           | 2           | 2           | 2           | 2           | 2           | ( 2            | 2                         | MS21042L3 /            | NUT   |
| 10          | 10          | 6           | 6           | 6           | 6           | 8              | 8                         | MS21042L4 <sup>4</sup> | NUT   |
|             |             |             |             |             |             | 7 2            | 2                         | _MS21042L5             | NUT   |
|             |             | 1           | 1           | Ĭ           |             | 1              | 1                         | *DSI 9410-011          | STEP MODIFICATION KIT                         |

\*DSI 9410-011 Step Modification Kits are provided with all D350-591-311 and D350-591-312 Steps. This kit is provided as an option for the installer and is therefore **NOT REQUIRED** to complete the installation of the D350-591-311 or D350-591-312 Steps. Refer to Figure 21 for installation of the DSI 9410-011 Kit.